

AMENDMENTS TO THE CLAIMS

This listing of the claims replaces all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. – 18. (Canceled)

19. (Currently Amended) A heat exchanger block comprising

at least two heat exchangers each consisting of a pair of longitudinal headers with flow passages extending between said headers, adjacent heat exchangers being detachably connected at adjacent ends of their headers wherein

one of said adjacent headers includes a recessed portion in the adjacent end,
the other of said adjacent headers includes a flange receivable in said recessed portion of said one header, and

aligned holes extend through said flange and said one header end; and
a fastener received in said aligned holes in the ends of at least one set of adjacent headers.

20. (Previously Presented) The heat exchanger block of claim 19, wherein at least some of said headers are aluminum cast parts.

21. (Previously Presented) The heat exchanger block of claim 19, further comprising shroud attachments along a longitudinal wall of at least one of the longitudinal headers.

22. (Previously Presented) The heat exchanger block of claim 19, further comprising an intermediate insert between the flow passages of said adjacent headers, said insert having a low thermal conductivity.

23. (Previously Presented) The heat exchanger block of claim 19, wherein the fastener extends between the front and back of the heat exchanger block.

24. (Currently Amended) The heat exchanger block of claim 19, wherein said aligned holes are each longitudinal with have an oblong cross-section in a plane perpendicular to the longitudinal direction an axial dimension of said holes.

25. (Previously Presented) The heat exchanger block of claim 24, wherein said oblong cross-sections each have a major dimension, and said major dimension of one oblong cross-section is transverse to said major dimension of the other oblong cross-section.

26. (Currently Amended) The heat exchanger block of claim 19, wherein said heat exchanger block is a cross-flow heat exchanger block in which the headers are arranged [[on]] in two vertically-aligned rows.

27. (Previously Presented) The heat exchanger block of claim 19, wherein adjacent headers jointly define a substantially longitudinally extending outer profile, and said flange does not extend substantially outside said outer profile.

28. (Previously Presented) The heat exchanger block of claim 19, wherein said flow passages together with fins define a core for each heat exchanger, and said cores of all of the heat exchangers are substantially aligned on at least one side in a plane.

29. (Canceled)

30. (Previously Presented) The heat exchanger block of claim 28, wherein said flange extends substantially parallel to said plane.

31. (Previously Presented) The heat exchanger block of claim 19, further comprising fan mounting arms, and arm attachments along a longitudinal wall of at least one of the longitudinal headers.

32. – 36. (Canceled)

37. (New) A heat exchanger block comprising:

a first heat exchanger having a header and tubes extending therefrom, the header having an end with a flange extending therefrom, and an aperture defined through the flange;

a second heat exchanger having a header and tubes extending therefrom, the header having an end, and an aperture defined through a portion of the end;

the end of the first heat exchanger header positioned adjacent the end of the second heat exchanger header such that the apertures are in alignment; and

a fastener positioned through the aligned apertures in order to detachably connect the first and second heat exchangers.

38. (New-withdrawn) The heat exchanger block of claim 37, wherein the portion of the end of the second heat exchanger is a flange, and wherein a sliding seat is associated with the fastener.

39. (New-withdrawn) The heat exchanger block of claim 37, wherein at least one of the first and second heat exchanger ends further comprises a second aperture through which another fastener is positioned.

40. (New) The heat exchanger block of claim 37, wherein at least one of the aligned apertures has an oblong cross-section in a plane perpendicular to an axial dimension of the aperture.

41. (New) The heat exchanger block of claim 37, wherein the adjacent headers of the heat exchanger block jointly define a substantially longitudinally extending outer profile, and the flange does not extend substantially outside the outer profile.

42. (New) The heat exchanger block of claim 37, wherein the tubes of each heat exchanger define a respective core of each heat exchanger, and the first heat exchanger core and the second heat exchanger core are substantially aligned on at least one side in a plane.

43. (New) The heat exchanger block of claim 37, wherein the first heat exchanger has another header, the other header having an end adapted for connection to an end of another header of the second heat exchanger.

44. (New) The heat exchanger block of claim 37, wherein the header of at least one of the first and second heat exchangers defines a tank substantially enclosing an internal volume for a working fluid.

45. (New) The heat exchanger block of claim 37, wherein the fastener prevents relative movement between the headers of the first and second heat exchangers in one direction and allows relative movement between the headers in a direction perpendicular to the one direction.

46. (New) A heat exchanger block comprising:

 a first heat exchanger with a header forming a manifold for fluid flow, an end of the header having an engagement element;

 a second heat exchanger with a header forming a manifold for fluid flow, an end of the header having an engagement element that corresponds to the engagement element of the first heat exchanger;

 wherein the first heat exchanger is positioned adjacent the second heat exchanger and the engagement element of the first heat exchanger is secured to the engagement element of the second heat exchanger in order to allow limited movement of the first heat exchanger relative to the second heat exchanger.

47. (New) The heat exchanger block of claim 46, wherein the engagement element of the first heat exchanger is a flange with at least one aperture.

48. (New-withdrawn) The heat exchanger block of claim 47, and further comprising a sliding seat proximate to the engagement element of the first and second heat exchangers.

49. (New) The heat exchanger block of claim 47, wherein the engagement element of the second heat exchanger is a recess adjacent a portion of the end of the second heat exchanger having an aperture, and a connector is positioned through the aligned apertures in the first and second heat exchanger ends.

50. (New-withdrawn) The heat exchanger block of claim 47, wherein the engagement element of the second heat exchanger is a flange which abuts the flange of the first heat exchanger, the flange of the second heat exchanger having at least one aperture and being positioned such that the apertures are aligned to receive a connector.

51. (New-withdrawn) The heat exchanger block of claim 50, and further comprising a sleeve at least partially surrounding the connector.

52. (New) The heat exchanger block of claim 46, wherein the engagement element of the first heat exchanger is connected to the engagement element of the second heat exchanger such that expansion and contraction of heat exchanger components due to temperature fluctuations are accommodated.

53. (New) The heat exchanger block of claim 46, wherein the adjacent headers of the heat exchanger block jointly define a substantially longitudinally extending outer profile, and the engagement elements are positioned substantially within the outer profile.

54. (New) The heat exchanger block of claim 46, wherein the each header defines a manifold for a working fluid within a core of the respective heat exchanger, and the first heat exchanger core and the second heat exchanger core are substantially aligned on at least one side in a plane.

55. (New) The heat exchanger block of claim 46, wherein the first heat exchanger has another header, the other header having an end adapted to be removeably secured to an end of another header of the second heat exchanger.

56. (New) The heat exchanger block of claim 46, wherein an insert having low thermal conductivity is positioned between adjacent portions of the first and second heat exchangers.

57. (New) The heat exchanger block of claim 46, wherein the engagement element of the first heat exchanger is in contact with the engagement element of the second heat exchanger.

58. (New) A method of forming a heat exchanger block from first and second heat exchangers, the method comprising the acts of:

providing the first heat exchanger with a header having an end with a flange and an aperture defined through the flange, and the second heat exchanger with a header having an end and an aperture defined through a portion of the end;

positioning the headers such that the apertures are in alignment; and

removably connecting the headers of the first and second heat exchangers with a fastener inserted through the aligned apertures.

59. (New-withdrawn) The method of claim 58, and further comprising:

allowing for at least one of expansion and contraction of the heat exchanger components due to thermal cycling by providing elasticity at the connection between the headers of the first and second heat exchangers.

60. (New) The method of claim 58, and further comprising:

providing a heat exchanger core extends from the header of both the first and second heat exchangers; and

positioning the headers such that the first and second heat exchanger cores are aligned on at least one side in a plane.

61. (New) The method of claim 60, and further comprising:

securing a fan shroud to attachment portions around a perimeter of the heat exchanger block in the at least one side in a plane.

62. (New) The method of claim 58, and further comprising:

insulating the first heat exchanger from the second heat exchanger by providing an insert of low thermal conductivity between adjacent portions of the heat exchangers.

63. (New) The method of claim 58, and further comprising:

providing dampers for mounting the heat exchanger block such that it is substantially isolated from at least one of external movement and vibrations.